

JAN PRESTON

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EDUCATION/CERTIFICATION

Master of Science, Mechanical Engineering, Rice University, Houston, Texas
Bachelor of Science, Mechanical Engineering, Rice University, Houston, Texas
Registered Professional Mechanical Engineer, State of California

PROFESSIONAL EXPERIENCE

1993 - Present: Deputy Assistant Director for Weapons Programs/Program Manager, Defense Nuclear Facilities Safety Board, Washington DC

In support of a Congressionally-established, independent oversight Board, assess the safety of the Department of Energy (DOE) facilities used for assembly, disassembly, and testing of nuclear weapons. Major accomplishments/responsibilities include:

- Initiated and conducted a comprehensive review that identified significant deficiencies in the method used by DOE to evaluate the safety of operations involving nuclear explosives.
- Supported the development of a formal Board recommendation to the Secretary of Energy concerning the negative impact on the safety of DOE's operations caused by the rapid down-sizing of the nuclear weapons community.
- Facilitate the development of strategic issues associated with safety oversight of DOE's defense nuclear facilities.
- Establish dialogue between the Board and the Department of Defense (DoD) organizations that will potentially be affected by safety problems at DOE's defense nuclear facilities.

1991 - 1993: Special Scientific Advisor for Nuclear Surety, Office of the Assistant to the Secretary of Defense (Atomic Energy)

Expert technical advisor on nuclear weapon safety, security, and risk assessments. Responsible for guiding the DoD in the development of a risk assessment capability and for overseeing its application. Major accomplishments/responsibilities included:

- Facilitated the establishment of a Safety Assessment Division within Defense Nuclear Agency.
- Developed the first Joint Surety Plan -- a set of recommendations sent by the Joint Nuclear Weapons Council to the Secretaries of Defense and Energy identifying risk assessments, databases, and models needed to support nuclear weapon safety.
- Coordinated the policy response for the Office of the Secretary of Defense (OSD) during a nuclear weapon accident exercise.
- Acted as the DoD Chair of a Joint DoD-DOE study of the response of stockpile nuclear weapons to accidents involving fire.
- Sat as the OSD Observer on the Senior Oversight Group for the Minuteman III System Safety Assessment.

Assignment to OSD was conducted under the Intergovernmental Personnel Act of 1970; sponsoring agency was Lawrence Livermore National Laboratory (see below).

1984-1991: Lead Engineer/Policy Analyst, Lawrence Livermore National Laboratory (LLNL), University of California (UC)

Weapons Engineering Division: Established and managed teams to perform two risk assessments covering:

- Operations at DOE's Pantex facility involving the B83 Modern Strategic Bomb.
- Air Force operations involving the W89/Short Range Attack Missile.

Developed a methodology for operational risk assessment based on analyses of staged hazard exposure. Prepared budgets, negotiated funding/personnel/sponsor support, established and tracked schedules, and monitored expenditures. Responsible for coordinating with internal and external organizations, including DOE, DoD, the Air Force, and the Nuclear Weapons Council Weapons Safety Committee.

The Office of the Director:

- Counter-Intelligence (CI) Analyst. Reviewed operational abnormalities for indications of potential espionage penetrations. Created internal/external CI policy documents. Implemented a defensive briefing/debriefing program for Laboratory personnel interactions with foreign nationals. Developed a CI program plan for the entire DOE complex.
- Technical Policy Analyst, Associate Director's Staff. Advised on operational management issues, including facilities, vehicles, transportation, communication systems, and administrative policy. During this assignment, served as a U.S. Nuclear Regulatory Commission (NRC) quality assurance inspector for a commercial reactor audit.
- Policy Research Group Leader in the Office of the Laboratory Council. Assessed the impact on Laboratory operations of Congressional, DOE, UC, and internal policies.

1982 - 1984 Fellow, Advisory Committee on Reactor Safeguards (ACRS)

Supported the ACRS, a fifteen-member panel of nationally-recognized experts in the fields of nuclear physics, radiation health effects, and commercial and government nuclear power operations, which advises Congress on the activities of the NRC. Fellowship served while on leave of absence from LLNL.

Performed research and analyses that resulted in approximately one topical report each month on subjects including:

- human factors engineering (domestic and foreign programs),
- advanced control room design,
- safety and licensing of nuclear fuel storage,
- prioritization of generic safety issues,
- non-destructive testing methods for reactor systems,
- regulatory management policy,
- foreign reactor research programs, and
- design and use of facilities for nuclear reactor accident response.

1979 - 1982 Mechanical Engineer, Project Manager, LLNL

Nuclear Systems Safety Program: Provided technical support for the NRC's response to the Three Mile Island accident. Technical areas included design criteria/data requirements for control rooms and emergency response facilities, and human factors engineering review criteria for control rooms.

- Acted as Principal Investigator and managed subcontractor support on NRC contracts.
- Supervised multi-disciplinary teams during on-site review of control room design at several commercial reactors.
- Developed regulatory guidance for issuance by NRC.
- Prepared technical evaluation reports to support NRC licensing actions.

Nuclear Test Program:

- Fielded and evaluated results of cable-loading experiments on two nuclear tests.
- Supervised the specification and certification of field hardware by technicians.
- Designed and supervised the construction of a calibration facility at the Nevada Test Site.

HONORS

American Society of Mechanical Engineers, Rothermal Graduate Scholar, 1978

Fellow, Advisory Committee on Reactor Safeguards, 1982-1984

Office of the Secretary of Defense Award for Excellence, 1993

Defense Nuclear Facilities Safety Board Special Act or Service Award, 1994

PROFESSIONAL ASSOCIATIONS

American Society of Mechanical Engineers, Member

American Nuclear Society, Member

Society for Risk Analysis, Member

Society of Women Engineers, Senior Member